Focusrite D2™ and D3 Plug-Ins Guide

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Contents

Chapter 1. Introduction 1
System Requirements and Compatibility 1
Registering Plug-Ins 2
Working with Plug-Ins 2
Conventions Used in This Guide 2
About www.avid.com 3

Chapter 2. Installation and Authorization 5
Installing Plug-Ins for Pro Tools 5
Authorizing Plug-Ins 5
Removing Plug-Ins 6

Chapter 3. Focusrite D2 7
Focusrite D2 Configurations 7
Adjusting Plug-In Parameters 8
D2 Parameters 9
Using D2 in Stereo 12

Chapter 4. Focusrite D3 15
Focusrite D3 Configurations 15
Adjusting Plug-In Parameters 16
D3 Parameters 17
D3 Compressor Controls 19
D3 Limiter Controls 21
Using the Side-Chain Input in Focusrite D3 21

Chapter 1: Introduction

Congratulations on your purchase of the Focusrite D2 or D3 plug-in for Pro Tools® and VENUE™ systems. Focusrite D2 is a high-quality digital equalizer plug-in, and Focusrite D3 is a high-quality dynamics processor plug-in.

The Focusrite D2 and D3 plug-ins are available in AAX (DSP, Native, and AudioSuite), TDM, RTAS®, and AudioSuite™ plug-in formats that retain the look and sound of Focusrite's renowned hardware units.

The D2 and D3 plug-ins provide support for 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, and 192 kHz sessions.

On 176.4 kHz or 192 kHz stereo tracks, Focusrite is only available as a multi-mono plug-in.

System Requirements and Compatibility

To use Focusrite D2 or D3, you need the following:

- An iLok USB Smart Key
- An iLok.com account for managing iLok licenses
- One of the following:
  - A qualified Pro Tools system
  - A qualified Pro Tools system and a third-party software application that supports the AAX, TDM, RTAS, or AudioSuite plug-in standard
  - A qualified Avid® Xpress®, Avid Xpress DV, or Avid DNA™ system
  - A qualified VENUE system (TDM only)

Avid can only assure compatibility and provide support for hardware and software it has tested and approved.

For complete system requirements and a list of qualified computers, operating systems, hard drives, and third-party devices, visit:

www.avid.com/compatibility

Registering Plug-Ins

Your plug-in purchase is automatically registered when you activate your iLok license (see “Authorizing Plug-Ins” on page 5).

Registered users are eligible to receive software update and upgrade notices.

For information on technical support, visit www.avid.com.

Working with Plug-Ins

Besides the information provided in this guide, refer to the *Pro Tools Reference Guide* for general information on working with plug-ins, including:

- Inserting plug-ins on tracks
- Using clip indicators
- Navigating the Plug-In window
- Adjusting plug-in controls
- Automating plug-ins
- Using side-chain inputs
- Using plug-in presets

Conventions Used in This Guide

All Pro Tools guides use the following conventions to indicate menu choices and key commands:

Convention	Action
File > Save	Choose Save from the File menu
Control+N	Hold down the Control key and press the N key
Control-click	Hold down the Control key and click the mouse button
Right-click	Click with the right mouse button

The names of Commands, Options, and Settings that appear on-screen are in a different font.

The following symbols are used to highlight important information:

User Tips are helpful hints for getting the most from your Pro Tools system.

Important Notices include information that could affect your Pro Tools session data or the performance of your Pro Tools system.

Shortcuts show you useful keyboard or mouse shortcuts.

Cross References point to related sections in this guide and other Pro Tools and VENUE guides.

About www.avid.com

The Avid website (www.avid.com) is your best online source for information to help you get the most out of your Pro Tools system. The following are just a few of the services and features available.

Product Registration Register your purchase online.

Support and Downloads Contact Avid Customer Success (technical support); download software updates and the latest online manuals; browse the Compatibility documents for system requirements; search the online Knowledge Base or join the worldwide Pro Tools community on the User Conference.

Training and Education Study on your own using courses available online or find out how you can learn in a classroom setting at a certified Pro Tools training center.

Products and Developers Learn about Avid products; download demo software or learn about our Development Partners and their plug-ins, applications, and hardware.

News and Events Get the latest news from Avid or sign up for a Pro Tools demo.

Chapter 2: Installation and Authorization

Installing Plug-Ins for Pro Tools

The installer for your plug-in can be downloaded from the Avid Store (shop.avid.com) or through your my.avid.com account. Plug-Ins can also be purchased retail, in which case the included activation card provides the necessary information for downloading, installing, and authorizing your plug-in (www.avid.com/activation).

For more information about Avid audio plug-ins, visit www.avid.com/plugins.

To install a plug-in:

1. Download the installer for your computer platform from www.avid.com. After downloading, make sure the installer is uncompressed (.dmg on Mac or .ZIP on Windows).
2. If Pro Tools is running, quit Pro Tools.
3. Locate and double-click the plug-in installer application.
4. Follow the on-screen instructions to complete the installation.
5. When installation is complete, click Quit (Mac) or Finish (Windows).

When you launch Pro Tools, you are prompted to authorize your new plug-in.

Authorizing Plug-Ins

Avid Pro Tools plug-ins are authorized using the iLok USB Smart Key (iLok), manufactured by PACE Anti-Piracy.

iLok USB Smart Key

An iLok can hold hundreds of licenses for all of your iLok-enabled software. Once a license for a given piece of software is placed on an iLok, you can use the iLok to authorize that software on any computer.

An iLok USB Smart Key is not supplied with plug-ins or software options. You can use the iLok included with certain Pro Tools systems or purchase one separately.

Once you have purchased your software from the Avid Store or entered your activation code online, an authorization license for your software is posted to your iLok account. Authorize your software by downloading the license from iLok account to your iLok USB Smart Key.

For more information, visit the iLok website (www.iLok.com).

To download the license for your software to your iLok:

1. If you don't already have an iLok account, visit www.ilok.com to sign up for one.
2. Log in to your iLok.com account at www.ilok.com.
3. Follow the online instructions to transfer the license from your iLok account to your iLok USB Smart Key.

Removing Plug-Ins

If you need to remove a plug-in from your Pro Tools system, follow the instructions below for your computer platform.

Mac OS X

To remove an AAX plug-in:

1. Locate and open the Plug-Ins folder on your Startup drive (Library/Application Support /Avid/Audio/Plug-Ins).
2. Do one of the following:

- Drag the plug-in to the Trash and empty the Trash.
- Drag the plug-in to the Plug-Ins (Unused) folder.

To remove a TDM or RTAS plug-in:

1. Locate and open the Plug-Ins folder on your Startup drive (Library/Application Support /Digidesign/Plug-Ins).
2. Do one of the following:

- Drag the plug-in to the Trash and empty the Trash.
- Drag the plug-in to the Plug-Ins (Unused) folder.

Windows

To remove a plug-in:

1. Choose Start > Control Panel.
2. Click Programs and Features.
3. Select the plug-in from the list of installed applications.
4. Click Uninstall.
5. Follow the on-screen instructions to remove the plug-in.

Chapter 3: Focusrite D2

Focusrite D2 is a high-quality digital equalizer plug-in for Pro Tools. Developed in cooperation with Focusrite, the D2 is based on the highly-acclaimed Red Range 2™ dual EQ, designed by Rupert Neve.

D2 features include:

- Up to six simultaneous bands of EQ, including: high-pass, low-shelf, low-mid peak, high-mid peak, high-shelf, and low-pass filters
- A highly accurate Cartesian graph that displays EQ curves in real-time as EQ parameters are adjusted

Focusrite D2

Focusrite D2 Configurations

There are three configurations of the Focusrite D2 plug-in, each designed to use a different amount of your system's DSP.

1–2 Band EQ

This module uses the least DSP. You can use up to two filters simultaneously, depending on which you enable. The high-pass, low-shelf, and low-pass filters each utilize the entire module and cannot be used in combination with another filter. The low-mid peak, high-mid peak, or high-shelf filters can be used in combination with each other (up to two bands total).

4-Band EQ

This module uses more DSP. You can use up to four filters simultaneously. Unlike the 1–2 Band EQ, any combination of filters can be engaged, up to a total of four bands.

6-Band EQ

This module uses the most DSP. You can use up to six filters simultaneously. By default, the low-pass and high-pass filters are in Bypass mode when the 6-Band EQ is first opened.

Adjusting Plug-In Parameters

You can adjust plug-in controls by dragging the control's slider or knob, or by typing a value into the control's text box. Additionally, some plug-ins have switches that can be enabled by clicking on them.

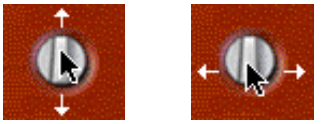
To adjust a plug-in control:

1. Begin audio playback so that you can hear the control changes in real time.
2. Adjust the controls of the plug-in for the effect you want. Refer to "Editing Parameters Using a Mouse" on page 8 and "Editing Parameters Using a Computer Keyboard" on page 8.

Closing the plug-in will save the most recent changes.

Editing Parameters Using a Mouse

You can adjust rotary controls by dragging horizontally or vertically. Parameter values increase as you drag upward or to the right, and decrease as you drag downward or to the left.



Adjusting rotary controls

Keyboard Shortcuts

◆ For finer adjustments, Control-drag (Windows) or Command-drag (Mac) the control.

◆ To return a control to its default value, Alt-click (Windows) or Option-click (Mac) the control.

Editing Parameters Using a Computer Keyboard

Some controls have text boxes that display the current value of the parameter. You can edit the numeric value of a parameter with your computer keyboard.

If multiple plug-in windows are open, Tab and keyboard entry remain focused on the plug-in that is the target window.

To change control values with a computer keyboard:

1. Click the text box corresponding to the control that you want to adjust.
2. To change the value, do one of the following:

- To increase a value, press the Up Arrow on your keyboard. To decrease a value, press the Down Arrow on your keyboard.
- Type the value.

In fields that support values in kilohertz, typing "k" after a number value will multiply the value by 1,000. For example, type "8k" to enter a value of 8,000.

3. Do one of the following:

- Press Enter on the numeric keyboard to input the value and remain in keyboard editing mode.
- Press Enter on the alpha keyboard (Windows) or Return (Mac) to enter the value and leave keyboard editing mode.

To move forward through the different control fields, press the Tab key. To move backward, press Shift+Tab.

Editing Parameters Using a Scroll Wheel

Some controls have text boxes that display the current value of the parameter. You can edit the numeric value of a parameter using a scroll wheel.

To change control values using a scroll wheel:

1. Click the text box corresponding to the control that you want to adjust.
2. To increase a value, scroll up with the scroll wheel. To decrease a value, scroll down with the scroll wheel.

Toggling Switches

To toggle a switch:

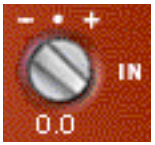
- Click the switch.

D2 Parameters

Input Level

Input Level allows you to attenuate signal input level to the D2. The range of this control is from –18 dB to +12 dB.

When you use D2 in stereo, each channel has its own separate Input Level knob. To adjust input levels for both channels simultaneously, select the Link button, then drag either knob.



input Level

Output Level

Output Level allows you to adjust the overall output gain. The range of this control is from –18 dB to +12 dB.

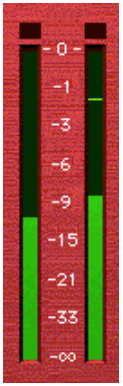
Output Level

When you use the D2 plug-in in stereo, each channel has its own separate output level knob. To adjust output levels for both channels simultaneously, select the Link button.

Meters

The D2's high-resolution plasma-style meters indicate signal levels and detect clipping at the input, algorithm, or output stage. When D2 is used in stereo, two meters appear, one for each channel.

A Clip Indicator is located above each meter. It indicates clipping by increasing its brightness as successive samples are clipped. Click the Clip Indicator to clear it. Alt-clicking (Windows) or Option-clicking (Mac) clears both channels when D2 is used in stereo.



Meters (Stereo mode)

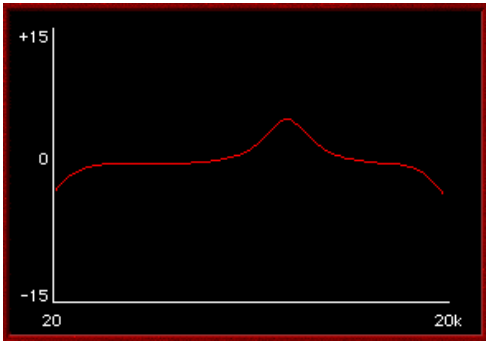
Metering:

- Green = nominal levels.
- Yellow = pre-clipping at –6 below full scale signal.
- Red = full scale signal (clipping).

The plug-in window includes a Clip LED that lights red to indicate plug-in clipping. The plug-in Clip LED follows Pro Tools settings for clip indication. (For more information, see the Pro Tools Reference Guide.)

The Cartesian Graph

The Cartesian Graph displays a visual representation of the current EQ settings. As you adjust the parameters of any currently active filter, the Cartesian Graph will plot the changes to the EQ curve in real-time. If you are using D2 in stereo, the Cartesian Graph displays the EQ curve for the right channel in red and the left channel in blue.



Cartesian Graph

Alt-clicking (Windows) or Option-clicking (Mac) the Cartesian Graph resets all D2 parameters to their default settings. To reset parameters for both channels when in Stereo mode, Alt-Shift-click (Windows) or Option-Shift-click (Mac) the Cartesian Graph.

EQ Filter Controls

Each of the six different EQ filters has its own controls and its own icon. The icons act as three-state switches for enabling, disabling, or bypassing the specific filter. The current state of a filter is indicated by its color:

- White = enabled. In this state the filter is active, audible, and using available DSP resources.
- Black = disabled. In this state the filter is not using any DSP resources and has no effect on audio.
- Gray = bypassed. In this state the filter is not active, but is still using available DSP resources. The effect of the filter is not audible.

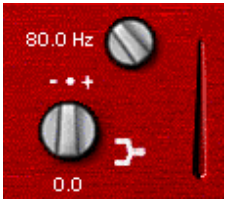
High-Pass Filter

The 18 dB/octave High-Pass Filter provides a rotary control for adjusting the corner (cutoff) frequency, variable from 20 Hz to 6.4 kHz.

High-Pass Filter

Low-Shelf Filter

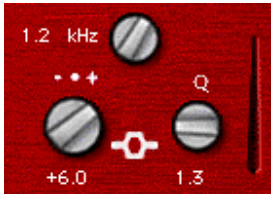
The Low-Shelf Filter provides two rotary controls: The upper rotary control adjusts the corner frequency, variable from 33 Hz to 460 Hz. The lower rotary control adjusts the filter's amplitude gain or attenuation. Amplitude range is ±15 dB from unity.



Low-Shelf Filter

Low-Mid Peak Filter

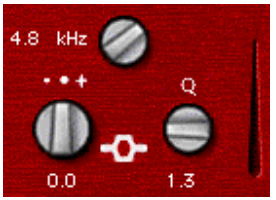
The Low-Mid Peak Filter provides three rotary controls. The upper rotary control adjusts the center frequency, variable from 33 Hz to 6.4 kHz. The lower left rotary control adjusts the filter's amplitude gain or attenuation. Amplitude range is ±15 dB from unity (utilizing a reciprocal curve for both gain and attenuation). The lower right rotary control adjusts filter "Q" which is variable from 0.7 to 4.0.



Low-Mid Peak Filter

High-Mid Peak Filter

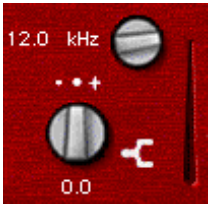
The High-Mid Peak Filter provides three rotary controls. The upper rotary control adjusts the center frequency, variable from 120 Hz to 18 kHz. The lower left rotary control adjusts the filter's amplitude gain or attenuation. Amplitude range is ±15 dB from unity (utilizing a reciprocal curve for both gain and attenuation). The lower right rotary control adjusts filter "Q" which is variable from 0.7 to 4.0.



High-Mid Peak Filter

High-Shelf Filter

The High-Shelf Filter provides two rotary controls: The upper rotary control adjusts the corner frequency, variable from 3.3 kHz to 18 kHz. The lower rotary control adjusts the filter's amplitude gain or attenuation. Amplitude range is ±15 dB from unity.



High-Shelf Filter

Low-Pass Filter

The 18 dB/octave Low-Pass Filter provides a rotary control for adjusting the filter's corner cutoff frequency, variable from 100 Hz to 18 kHz.

Low-Pass Filter

Enabling, Disabling and Bypassing EQ Filters

You can enable, disable, or bypass specific EQ filters by clicking them.

To disable a filter:

- Start key-click (Windows) or Control-click (Mac) the EQ Filter icon. When disabled, the icon is black.

To re-enable a filter:

- Click the EQ filter icon. When enabled, the icon is white.

To bypass a filter:

- Click the EQ filter icon a second time. When bypassed, the icon is grey.

⚠ *If you are using all available bands of the 1–2 Band or 4–Band EQ and want to change filter types, you must disable one filter before you can enable a different one.*

Using D2 in Stereo

Because Focusrite D2 has a single set of Filter parameter knobs, when it is used in stereo, you must select which channel, left or right, you want to edit.

Use the Left Channel, Right Channel, and Link buttons to do this. These controls only appear when D2 is used in stereo.

Left Channel, Right Channel, and Link buttons

Left Channel and Right Channel Buttons

The Left Channel and Right Channel buttons are used to select which channel is active for parameter editing.

Selecting the Left Channel button activates the left channel for editing. Any changes made to EQ parameters will affect the left channel of the stereo signal.

Selecting the Right Channel button activates the right channel for editing. Any changes made to EQ parameters will affect the right channel of the stereo signal.

Link Button

Selecting the Link button allows you adjust parameters for both channels simultaneously. By default, Link mode is enabled so that you can easily maintain parity between the parameter settings for both channels.

You can also use Link mode to help you maintain a relative offset between parameters settings on the two channels.

Maintaining an offset:

1. Deselect the Link button.
2. Select the desired channel button, left or right, and adjust the parameters for that channel.
3. Select Link mode and adjust the same parameters for the opposite channel. D2 will maintain the relative offset between the parameter settings for the two channels.

Alt-click (Windows) or Option-click (Mac) while linking channels with offsets to copy the parameters of the active channel to the opposite channel (including input and output levels).

Chapter 4: Focusrite D3

Focusrite D3 is a high-quality dynamics processor plug-in for Pro Tools. Developed in cooperation with Focusrite, the D3 is based on the highly acclaimed Red Range 3™ dual mono/stereo compressor & limiter designed by Rupert Neve.

Focusrite D3 Configurations

There are two configurations of the real-time TDM Focusrite D3 plug-in:

- Compressor+Limiter. This configuration allows you to use both the compressor and the limiter at the same time. The Compressor+Limiter plug-in requires twice as much DSP as the Compressor/Limiter.

- Compressor/Limiter. This configuration allows you to use either the compressor or the limiter—but not both at the same time. The Compressor/Limiter plug-in uses half as much DSP as the Compressor+Limiter. It is provided so that you can conserve DSP, since you may not need both compression and limiting at the same time.

Focusrite D3

The Compressor/Limiter defaults to the compressor being enabled and the limiter disabled.

To enable the limiter:

1. Disable the compressor by Start key-clicking (Windows) or Control-clicking (Mac) its icon.
2. Click the Limiter icon.

Compressor and Limiter icons

The D3 Compressor

The D3 compressor reduces the dynamic range of audio signals that exceed a user-selectable threshold by a specific amount. This is accomplished by reducing output levels as input levels increase above the threshold.

The amount of output level reduction that D3 applies as input levels increase is referred to as the *compression ratio*. This parameter is adjustable. If you set the compression ratio to 2:1, for example, for each 2 dB that the signal exceeds the threshold,

the output will increase only by 1 dB. With a compression ratio of 4:1 for example, an 8 dB increase in input will produce only a 2 dB increase in output.

The D3 Limiter

The D3 limiter operates as a fast-attack compressor with a high compression ratio. It does not attack instantaneously or look ahead in order to attack ahead of time, but instead uses a very fast, 1-millisecond attack time. As such, the D3 is not a "brick wall" limiter, but limits the overall dynamic range of signals in a sonically-pleasing way.

Like the Compressor, the Limiter is activated when the signal exceeds the user-selected threshold. The Limiter then compresses any signal above the selected threshold down to the threshold limit that you have set.

Side-Chain Processing

Compressors and limiters generally use the detected amplitude of the input signal as a control source. Other signals can also be used as a control source by using a key input. With de-essing, for example, a frequency-modified version of the input signal is used as a trigger. This is known as *side-chain* processing.

Side-chain processing allows the D3 compression or limiting to be controlled by another independent audio signal—typically another Pro Tools track. In this way you can compress or limit one track's audio using the dynamics of a different track's audio.

Using the D3 Plug-In in Stereo

In stereo configurations, all D3 controls except the Input Level affect both channels of the stereo signal. The D3's RMS detector (which derives the control signal that drives the dynamics processing) uses a composite of the two channels. Because of this, when stereo processing occurs, there is no image shift when signal levels differ between the two channels (since the composite control signal drives processing for both channels).

Adjusting Plug-In Parameters

You can adjust plug-in controls by dragging the control's slider or knob, or by typing a value into the control's text box. Additionally, some plug-ins have switches that can be enabled by clicking on them.

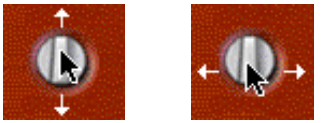
To adjust a plug-in control:

1. Begin audio playback so that you can hear the control changes in real time.
2. Adjust the controls of the plug-in for the effect you want. Refer to "Editing Parameters Using a Mouse" on page 16 and "Editing Parameters Using a Computer Keyboard" on page 17.

Closing the plug-in will save the most recent changes.

Editing Parameters Using a Mouse

You can adjust rotary controls by dragging horizontally or vertically. Parameter values increase as you drag upward or to the right, and decrease as you drag downward or to the left.



Adjusting rotary controls

Keyboard Shortcuts

- For finer adjustments, Control-drag (Windows) or Command-drag (Mac) the control.
- To return a control to its default value, Alt-click (Windows) or Option-click (Mac) the control.

Editing Parameters Using a Computer Keyboard

Some controls have text boxes that display the current value of the parameter. You can edit the numeric value of a parameter with your computer keyboard.

If multiple plug-in windows are open, Tab and keyboard entry remain focused on the plug-in that is the target window.

To change control values with a computer keyboard:

1. Click the text box corresponding to the control that you want to adjust.
2. To change the value, do one of the following:

- To increase a value, press the Up Arrow on your keyboard. To decrease a value, press the Down Arrow on your keyboard.
- Type the desired value.

In fields that support values in kilohertz, typing "k" after a number value will multiply the value by 1,000. For example, type "8k" to enter a value of 8,000.

3. Do one of the following:

- Press Enter on the numeric keyboard to input the value and remain in keyboard editing mode.
- Press Enter on the alpha keyboard (Windows) or Return (Mac) to enter the value and leave keyboard editing mode.

To move forward through the different control fields, press the Tab key. To move backward, press Shift+Tab.

Editing Parameters Using a Scroll Wheel

Some controls have text boxes that display the current value of the parameter. You can edit the numeric value of a parameter using a scroll wheel.

To change control values using a scroll wheel:

1. Click the text box corresponding to the control that you want to adjust.
2. To increase a value, scroll up with the scroll wheel. To decrease a value, scroll down with the scroll wheel.

Toggling Switches

To toggle a switch:

- Click the switch.

D3 Parameters

Input Level

Input Level attenuates signal input level to the compressor or limiter. The range of this control is from –30 dB to 0 dB.

When you use the stereo version of the D3 plug-in, each channel has its own separate Input Level knob. To adjust input levels for both channels simultaneously, Shift-drag. Alt-Shift-clicking (Windows) or Option-Shift clicking (Mac) either Input Level knob resets both channels to 0 dB.

Input Level

Output Level

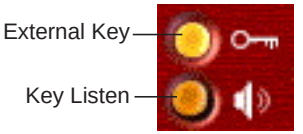
Output Level adjusts the overall output gain. Because large amounts of compression can restrict dynamic range, the Output Level knob is useful for compensating for heavily compressed signals and making up the resulting difference in level.

When you use the stereo version of the D3 plug-in, this single knob controls the master output for both channels. The range of this control is from –12 dB of attenuation to +18 dB of gain.

Output Level

External Key and Key Listen

The *side-chain* is the split-off signal used by a plug-in's detector to trigger dynamics processing. External Key lets you designate an external source (known as the *key input*) for the side-chain, while Key Listen lets you monitor the key input.



External Key and Key Listen toggles

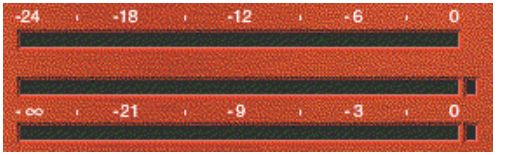
See "Using the Side-Chain Input in Focusrite D3" on page 21 for detailed information on external side-chain processing.

Meters

The meters indicate gain reduction (the top meter) and output level (the bottom meter). The Gain Reduction meter indicates the amount of gain reduction in dB. The Output Level meter indicates the output signal level in dB.

In Stereo mode, two Output Level meters appear, one for each channel. However, a single Gain Reduction meter is used for both channels, since the D3's RMS detector uses a composite control signal.

A red Clip Indicator appears to the right of the output meter(s). Clicking on the Clip Indicator clears it. Alt-clicking (Windows) or Option-clicking (Mac) clears both channels when the plug-in is used in stereo.



Meters

Metering indicators:

- Green indicates nominal levels.
- Yellow indicates pre-clipping at –6 below full scale.
- Red indicates a full scale signal (clipping).

The plug-in window includes a Clip LED that lights red to indicate plug-in clipping. The plug-in Clip LED follows Pro Tools settings for clip indication. (For more information, see the Pro Tools Reference Guide.)

D3 Compressor Controls

The Compressor icon, which represents a compression curve, acts as a three-state switch for enabling, disabling, or bypassing the compressor. Its current state is indicated by the icon's color.

Compressor icon

- White indicates enabled. In this state the compressor is active and using available DSP resources.
- Black indicates disabled. In this state, the compressor is not using DSP resources.
- Gray indicates bypassed. In this state the compressor is not active, but is still using available DSP resources.

Compressor controls

To disable the compressor:

- Start key-click (Windows) or Control-click (Mac) the icon. When the compressor is disabled, the icon is black.

To re-enable the compressor:

- Click the icon. When the compressor is enabled, the icon is white.

To bypass the compressor:

- Click the icon a second time. When the compressor is bypassed, the icon is grey.

If you are using the *Compressor/Limiter plug-in*, which allows you to use either the compressor or the limiter (but not both simultaneously), you must disable one module by Start key-clicking the icon (Windows) or Control-clicking it (Mac) before you can enable the other.

Ratio

Ratio sets the compression ratio. If the ratio is set to 2:1 for example, it will compress changes in signals above the threshold by one half. The range of this control is from 1.5:1 (very little compression), to 10:1 (heavy compression, bordering on limiting).

Ratio

Threshold

Threshold sets the threshold level. Signals that exceed this level will be compressed. Signals that are below it will be unaffected. The range of this control is from 0 dB to –48 dB. A setting of 0 dB is equivalent to no compression.

Threshold

Attack

Attack sets the compressor attack time. To use compression most effectively, the attack time should be set so that signals exceed the threshold level long enough to cause an increase in the average level. This helps ensure that gain reduction doesn't decrease the overall volume. The range of this control is from 1.0 ms to 150.0 ms.

Attack

Release

Release controls how long it takes for the compressor to be fully deactivated after the input signal drops below the threshold level. In general, this setting should be longer than the attack time and long enough that if signal levels repeatedly rise above the threshold, they cause gain reduction only once. If the release time is too long, a loud section of the audio material could cause gain reduction that persists through a soft section. The range of this control is from 25 milliseconds to 2.5 seconds.

Auto Release

Auto Release

Auto Release enables the automatic release function. In this mode the Release control has no effect on release time. Instead, the D3 uses a release time value that is program dependent and based on the audio being processed.

Auto Release

D3 Limiter Controls

The Limiter icon, which represents a limiter curve, acts as a three-state switch for enabling, disabling, or bypassing the limiter. Its current state is indicated by the icon's color:

- White indicates enabled. In this state, the limiter is active and using available DSP resources.
- Black indicates disabled. In this state, the limiter is not using DSP resources.
- Gray indicates bypassed. In this state, the limiter is not active, but is still using available DSP resources.

Limiter controls

Limiter In/Out icon

To disable the limiter:

- Start key-click (Windows) or Control-click (Mac) the icon. When the limiter is disabled, the icon is black.

To re-enable the limiter:

- Click the icon. When the limiter is enabled, the icon is white.

To bypass the limiter:

- Click the icon a second time. When the limiter is bypassed, the icon is grey.

If you are using the Compressor/Limiter plug-in, which allows you to use either the compressor or the limiter (but not both simultaneously), you must disable one module by Start key-clicking the icon (Windows) or Control-clicking it (Mac) before you can enable the other.

Limit LED

When lit, the Limit LED indicates that limiting is being applied. When unlit, limiting is not being applied.

Limit LED

Threshold

This sets the threshold level. Signals that exceed this level will be limited. Signals that are below it will be unaffected. A setting of 0 dB is equivalent to no limiting. The range of this control is from –24 dB to 0 dB.

Threshold

Using the Side-Chain Input in Focusrite D3

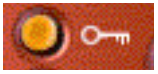
The *side-chain* is the split-off signal used by a plug-in's detector to trigger dynamics processing, and is generally drawn internally from the input signal. However, some plug-ins (such as the Focusrite D3) let you switch between internal and external side-chain processing.

With external side-chain processing, a plug-in's detector is triggered by an external signal (such as a separate reference track or audio source) known as the *key input*.

A typical use for this feature is to use a kick drum track to gate and tighten up a bass track, or a rhythm guitar track to gate another instrument.

External Key

External Key toggles external side-chain processing on or off. When this button is enabled, the plug-in uses the amplitude of an external signal (the key input) to trigger compression or limiting. When this button is disabled, the plug-in uses the amplitude of the input signal to trigger dynamics processing.



External Key

Key Listen

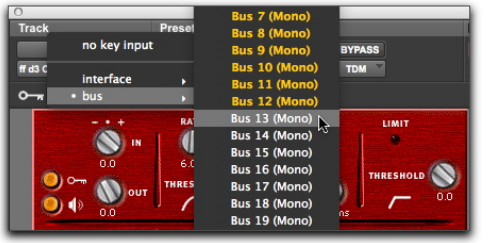
Key Listen enables and disables auditioning of the key input controlling the external side-chain. This is useful for fine-tuning the compressor's settings to the key input.

Key Listen

Using a Key Input for External Side-Chain Processing

To use a key input to trigger dynamics processing:

1. Click the Key Input selector and select the input or bus carrying the audio from the reference track or external audio source.



Selecting a key input

2. Click External Key to activate external side-chain processing.
3. To listen to the key input that will be used to control side-chain processing, click Key Listen to enable it.
4. Begin playback. The plug-in uses the input or bus that you chose as an external key input to trigger its effect.
5. Adjust the plug-in's Threshold control to fine-tune external key input triggering.
6. Adjust other controls to achieve the desired effect.

Avid
2001 Junipero Serra Boulevard
Daly City, CA 94014-3886 USA

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